

National Type Evaluation Program
Certificate of Conformance
for Weighing and Measuring Devices

For:

Jeweler's Balance
Grain Test Scale
Digital Electronic
Model: L Series
n: 42,400
Capacity: 424 g
Platform: 5" diameter

Accuracy Class: II

Submitted by:

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Standard Features and Options

The specific models in this series, their capacities, scale divisions, and verification scale divisions are listed on page 2.

Semi-automatic zero
Automatic zero-setting mechanism
Weight units of:

grams, kilograms, carats, pounds, ounces, troy ounces, pennyweight

Temperature Range: 10 to 30 °C (50 to 86 °F)

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Original signed by Chief, Office of Weights and Measures

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Sartorius Corporation
Digital Jeweler's Balance
Grain Test Scale
Model: L Series

Application: The scale may be used as either a jeweler's balance or as a grain test scale. The scale may be used as a general purpose scale. The models L 420S-*U2, L 220S-*U2, and L 220S-XU2 may be used as a grain test scale of the precision category of scales for USDA Federal Grain Inspection Service (FGIS) applications. The remaining balances may be used as grain test scales of the moisture category of scales for USDA FGIS applications.

Identification: The identification badge is located on the right side of the scale.

Sealing: A pressure sensitive security seal may be placed over the cap covering the hole providing access to the span adjustment program. The cap is located on the right front of the scale.

Available Models:

<u>Model</u>	<u>Capacity (g)</u>	<u>e (g)</u>	<u>d (g)</u>
L 420S-*U2	424	0.01	0.001
L 220S-*U2	222	0.01	0.001
L 220S-XU2	222	0.01	0.001
L 2200S-*U2	2220	0.1	0.01
L 2200S-XU2	2220	0.1	0.01
L 310-*U2	310	0.1	0.01
L 310-XU2	310	0.1	0.01
L 610-*U2	610	0.1	0.01
L 610-XU2	610	0.1	0.01

The "X" denotes the version with explosion protection.

Test Conditions: The Models L 420S-*U2 and L 2200S-*U2 were tested. Both scales were tested over a temperature range of 10 to 30 °C. The emphasis of the evaluation was on the device design, operation, and compliance with the influence factors requirements. Time dependence tests, temperature effect on zero tests, and voltage variation tests were performed. The range of the automatic zero-setting mechanism may be up to 0.3 e (3d) since e = 10d. A laboratory permanence test was conducted on the Model L420S. A load of approximately one-half scale capacity was applied to the scale over 100,000 times. The scale was tested periodically during this time. The results of the evaluation indicate that the device complies with the applicable requirements of NBS Handbook 44.

Type Evaluation Criteria Used: NBS Handbook 44, 1988 Edition

Tested By: J. Truex, B. Badenhop